ATTORNEY DOCKET NO.: C. LEE 22-1 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chin-Hui Lee, *et al.*

Serial No.: 09/325,143

Filed: June 3, 1999

For: KEY SEGMENT SPOTTING IN VOICE MESSAGES

Grp./A.U.: 2645

Examiner: Gerald Gauthier

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being transmitted via facsimile to the Commissioner for Patents on (Date) 12/8/03
Stephen T. Hitt
(Printed/typed name of person signing this certificate)
Stephen T. Hitt
(Signature of the person signing the certificate)

Sir:

AFFIDAVIT UNDER 37 C.F.R. §1.131

I, Chin-Hui Lee, hereby state:

1. I am an inventor of the claimed subject matter in the Patent Application identified above and an inventor of the subject matter described therein..

2. Prior to April 16, 1999, my co-inventor and I participated in the conception of spotting key segments in voice messages, as covered by the above-identified Patent Application, as evidenced by the following:

We submitted notations for a patent application disclosing my conception of the invention prior to April 16, 1999, and after the date of conception. These notations are reflected in an invention submission form, which is kept in the regular course of business. A true and correct copy of this invention submission form is attached hereto as Exhibit A. Thereafter, we

participated in the preparing information necessary for subsequent filing of the above referenced Patent Application in the United States, which was diligently prepared and filed with the United States Patent Office on June 3, 1999, as evidenced by Exhibits B-G.

For example, the invention submission form was sent to outside council on June 16, 1998, to prepare a patent application as evidenced by Exhibit B. We reviewed drafts of the patent application and provided comments and changes to the various drafts until a final draft was completed. Evidence of the draft applications that we reviewed is provided by Exhibits C, D, E and F. The first draft was sent to my co-inventor on October 15, 1998, for our review as evidenced by Exhibit C. Additionally, the second draft was sent November 3, 1998, as evidenced by Exhibits D, the third draft was sent February 10, 1999, as evidenced by Exhibit E and the final draft was sent May 12, 1999, as evidenced by Exhibit F. After the final draft was completed and ready for filing, we signed the Declaration and Assignment forms as evidenced by Exhibit G.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the Application or any patent issuing thereon.

Chin-Hui Lee

Date: 11/25/03

EXHIBIT A

Lucent Technologies
Bell Labs Innovations

Bell Laboratories

Subject: **Patent Proposal**

date: **February 26, 1998**

from: **Sid R. Ahuja**
Org. BL011330
MH 2D-540
908-582-4428

3/3
K.D.B

R. D. Slusky:

Please consider, for patentable features, Chin-Hui Lee and Padma Ramesh's paper entitled, "Voice Message Filtering for Classification of Voice Messages According to the Caller". This material has already been discussed informally with Ken Brown.

MH-BL011333-lc

Atts.
as above

S. R. Ahuja

Copy to
Ken Brown
Chin-Hui Lee
Padma Ramesh

Class number: V
Criterion letter: d & e

2/26/98
Signature

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For IP-Law Use Only

LUCENT TECHNOLOGIES, INC.

DISCLOSURE OF INVENTION

THIS DESCRIPTION SHOULD BE SUPPLEMENTED BY ATTACHING COPIES OF RELEVANT DOCUMENTS, SUCH AS TECHNICAL MEMORANDA, PUBLISHED OR TO-BE-PUBLISHED ARTICLES, AND ENGINEERING NOTEBOOK PAGES.
(Also, if for any item there is insufficient space on the form, attach additional pages as necessary.)

DESCRIPTIVE TITLE OF THE INVENTION: Key Segment Spotting in Voice messages

INVENTOR #1: Chin-Hui Lee — Bell Labs / MH
Name (Print) — Company/Location
chl@research.bell-labs.com — Sid Ahuja
Phone/E-mail — Director's Name

INVENTOR #2: Padma Ramesh — Bell Labs / MH
Name (Print) — Company/Location
padma@research.bell-labs.com — Sid Ahuja
Phone/E-mail — Director's Name

INVENTOR #3: _____
Name (Print) — Company/Location
_____
Phone/E-mail — Director's Name

2. PRIMARY CONTACT
If more than one inventor is named above, who will have the primary responsibilities for interfacing with Lucent IP-Law with respect to preparing and prosecuting a patent application for the invention?

Inventor Name: Padma Ramesh

3. PRESENT STATE OF THE INVENTION

☐ Idea ☑ Research ☑ Development

☐ Manufacture (Product Name _____ Ship Date _____)

4. GOVERNMENT CONTRACT INVENTION
Was the invention made under a government contact? ☐ Yes ☒ No

Class number: V
Criterion letter: d & e
2/26/98
Signature

For Dept. Head / Director's Use Only

For IP-Law Use Only

LUCENT TECHNOLOGIES, INC.

DISCLOSURE OF INVENTION

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(Also, if for any item there is insufficient space on the form, attach additional pages as necessary.)

DESCRIPTIVE TITLE OF THE INVENTION: Key Segment Spotting in Voice Messages

INVENTOR #1: Chin-Hui Lee — Bell Labs / MH
Name (Print) — Company/Location
chl@research.bell-labs.com — Sid Ahuja
Phone/E-mail — Director's Name

INVENTOR #2: Padma Ramesh — Bell Labs / MH
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Phone/E-mail — Director's Name

INVENTOR #3: _____
Name (Print) — Company/Location
_____
Phone/E-mail — Director's Name

2. PRIMARY CONTACT
If more than one inventor is named above, who will have the primary responsibilities for interfacing with Lucent IP-Law with respect to preparing and prosecuting a patent application for the invention?

Inventor Name: Padma Ramesh

3. PRESENT STATE OF THE INVENTION

☐ Idea ☑ Research ☑ Development

☐ Manufacture (Product Name _____ Ship Date _____)

4. GOVERNMENT CONTRACT INVENTION
Was the invention made under a government contact? ☐ Yes ☒ No

SUBMISSION INFORMATION

Attorney: K. M. BROWN

Submission Title: Key Segment Spotting IN Voice Messages

Filing Deadline: _____

Date Received From Inventor(s): MARCH 3, 1998

PLEASE SUPPLY WHATEVER INFORMATION IS READILY AT HAND:
(If additional space is needed, please use a second sheet)

INVENTOR: LEE (Last) Chin-Hui (First) _____ (Middle)

SSN (if known): _____
Organization No.: BLO 1133

INVENTOR: RAMESH (Last) PADMA (First) _____ (Middle)

SSN (if known): _____
Organization No.: BLO11 3330

INVENTOR: _____ (Last) _____ (First) _____ (Middle)

SSN (if known): _____
Organization No.: _____

INVENTOR: _____ (Last) _____ (First) _____ (Middle)

SSN (if known): _____
Organization No.: _____

Please attach all paperwork desired to be bound into folder.

PT 360.subinfo (10/97)

Voice Message Filtering for Classification of Voice Messages according to the Caller

Padma Ramesh and Chin-Hui Lee

This is an application of Speaker Verification and Speaker ID for identifying the callers and classifying the messages in Voice mail.

For example, To get messages from the caller "Tom": Use speaker verification and/or identification to Detect the messages from "Tom".

This application also uses the current knowledge in speech recognition, wordspotting, utterance verification, and extends it to the voice message filtering application to classify and retrieve messages from the callers. It will also use speech coding technology for use with coded voice mail messages. There is no known product at this time for this application.

The purpose of this application is to identify the caller and classify the voice messages according to the caller. The call classes can be assigned priorities based on the caller. This enables priority messaging, which is important when sorting through a lot of voice mail messages. This speeds up the process of looking for messages from certain people. This invention will verify if the message is from a registered or a given caller and then classify the messages according to the caller. It can then retrieve only the desired messages. This will enable one to just get to the desired message instead of having to listen to all the messages sequentially up to the one, the user is interested in.

Caller classification and message filtering is achieved by the following steps.

1. First the users register the callers they would like to spot in the messages. During the registration, the caller characteristics are stored. Then the user can provide a call priority for the caller class.
2. When a message is received, its caller class is determined by performing speaker verification and/or identification using the caller characteristics. Messages are then sorted using the caller classes.
3. When the user requests messages from the caller class, the messages from that caller class are retrieved from the sorted messages. The user can also request messages with a given call priority. Messages from all the call classes with the given priority are then retrieved.

User Registration:

The following steps are used in the user registration process and is shown in Figs.

1a and 1b.

1. User listens to a message from the caller.
2. The user registers it as a caller class by pressing **S (for save).
3. The caller's characteristics are then saved and stored as a code book or an acoustic segment model with HMM.
4. The system prompts the user to provide a caller class ID.
5. A caller class ID is given to the system as a speech sample from the user, or as text from a keyboard if available, or as a number on the keypad such as #5. Each class can have speech, text, or number ID or any combination of these.
6. The caller class ID is then registered by pressing **R.
7. If speech sample is given for the caller class ID, its pronunciation is obtained by speaker independent speech recognition, and is stored. For the caller class ID of text, a text-to-speech front end is used to determine the pronunciation. The pronunciation is also stored in addition to the text. This can be used later on for message retrieval with speech input.
8. If desired, a call priority can be assigned to the call class by pressing #3**I for a priority of 3. Message classes that are not given any priority by the user are assigned a default priority.
9. The user terminates the registration of this caller by pressing ##.

Message Handling:
Message Handling is shown in Fig. 2a. Every message that is received is compared to the registered caller's voice characteristics. Speaker ID is performed using all the registered voice patterns, or speaker verification can be performed sequentially to identify the caller of the message. The message is then tagged with the caller class ID, as belonging to that caller class. The messages are then classified by the caller classes. Messages that do not belong to any caller class are identified and grouped as belonging to the "other class".

Message Retrieval:
The message retrieval phase is shown in Fig. 3.

1. The user requests messages from a particular caller class by either speaking or typing the caller class ID, or by pressing the keypad number, for example, #5**M for messages from the caller class 5.
2. If the caller class ID is given as speech, speech recognition is performed on all the registered class ID's with pronunciation, to determine the requested class ID.

3. Messages from the requested caller class are played back to the user sequentially.
4. If messages with a particular priority are requested by pressing #3**C for calls with priority of 3, all the messages from call classes with the priority of 3 are played back sequentially.

In addition to caller classification and message retrieval, a list of all the registered callers is provided by **L key. In order to provide a secure access to the messages, speaker verification can be used to verify that the user is an authorized user.

If a caller's voice pattern is not registered, but only their name is registered, the name segment can be detected and verified using Key segment detection and utterance verification using the pronunciation. For example, to get messages from the caller "Tom", detect and verify the phrase "My name is Tom" or "This is Tom" in the message. This is done by using key segment detection and utterance verification, with the speaker independent subword Hidden Markov Models (HMM) and the pronunciation to look for caller name phrases such as "This is Tom", "Tom here", "My name is Tom" and so on. Message Handling when the caller's voice is not registered is shown in Fig. 2b.

Caller classification can also be achieved by registering the phone number for the caller, and extracting the extracting the telephone number using Caller ID (if available).

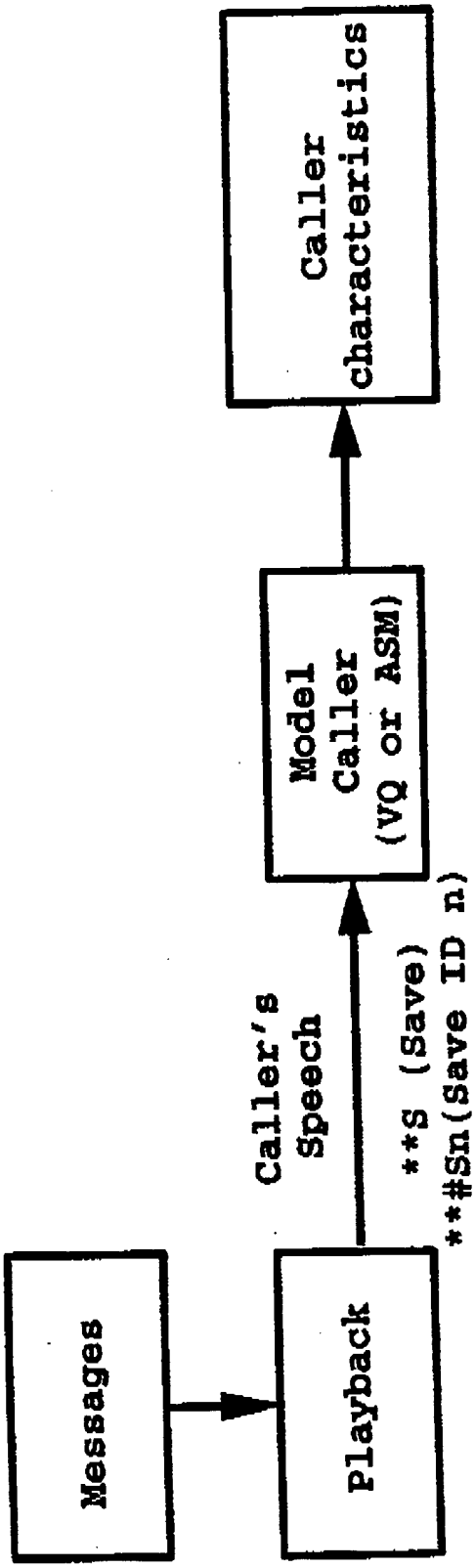


Fig. 1a. Caller Registration

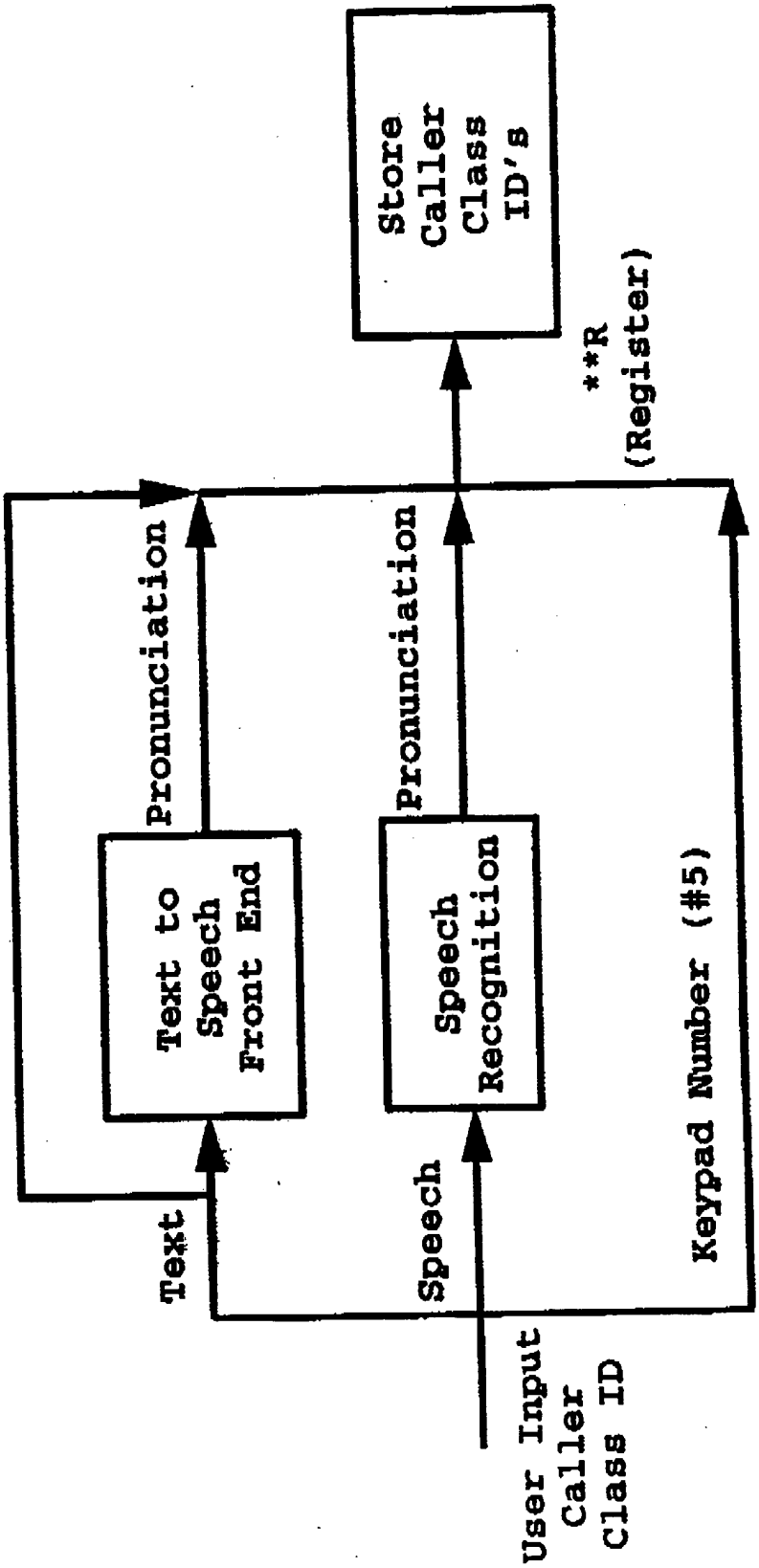


Fig. 1b. Caller Class ID Registration

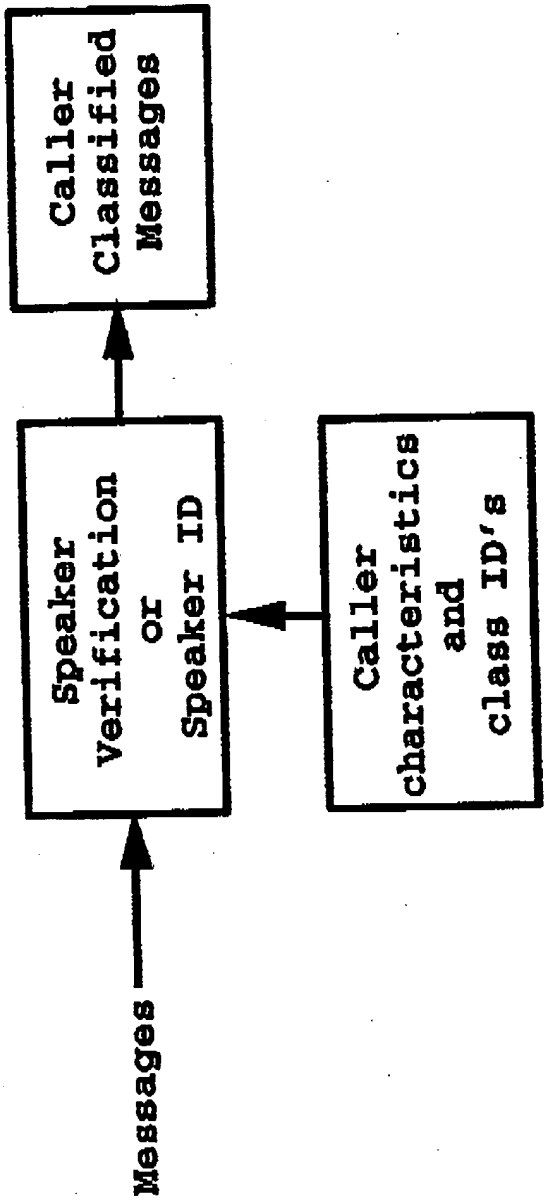


Fig. 2a. Message Handling for Caller Classification with Registered Caller Speech

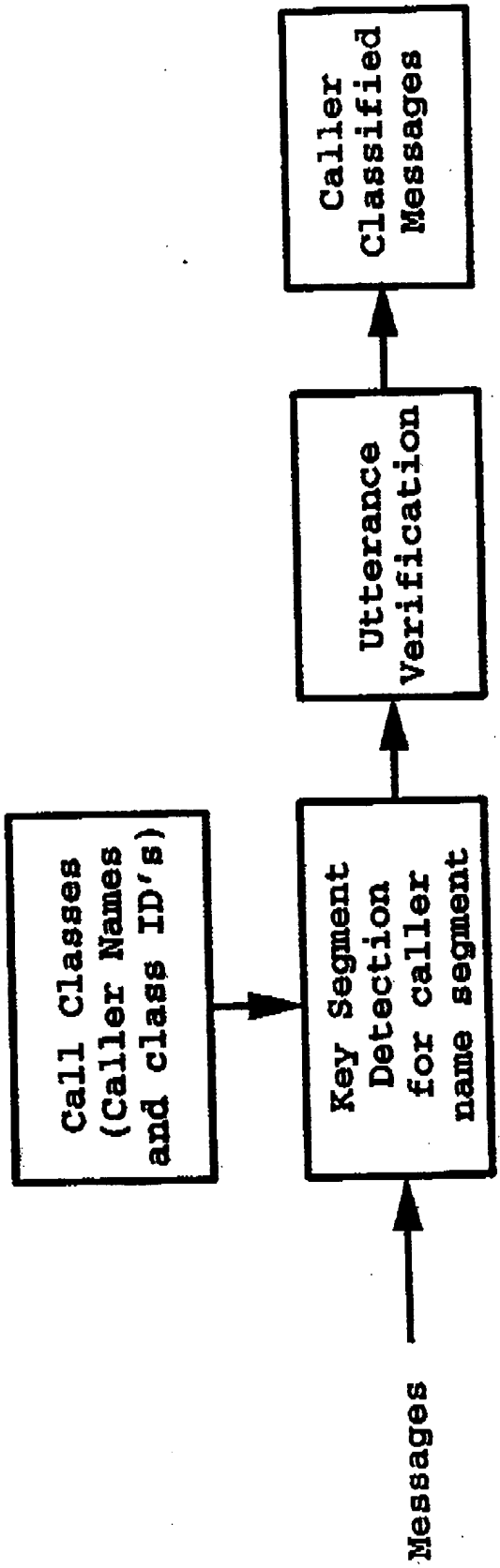


Fig. 2b. Message Handling for Caller Classification without Caller Speech Registration

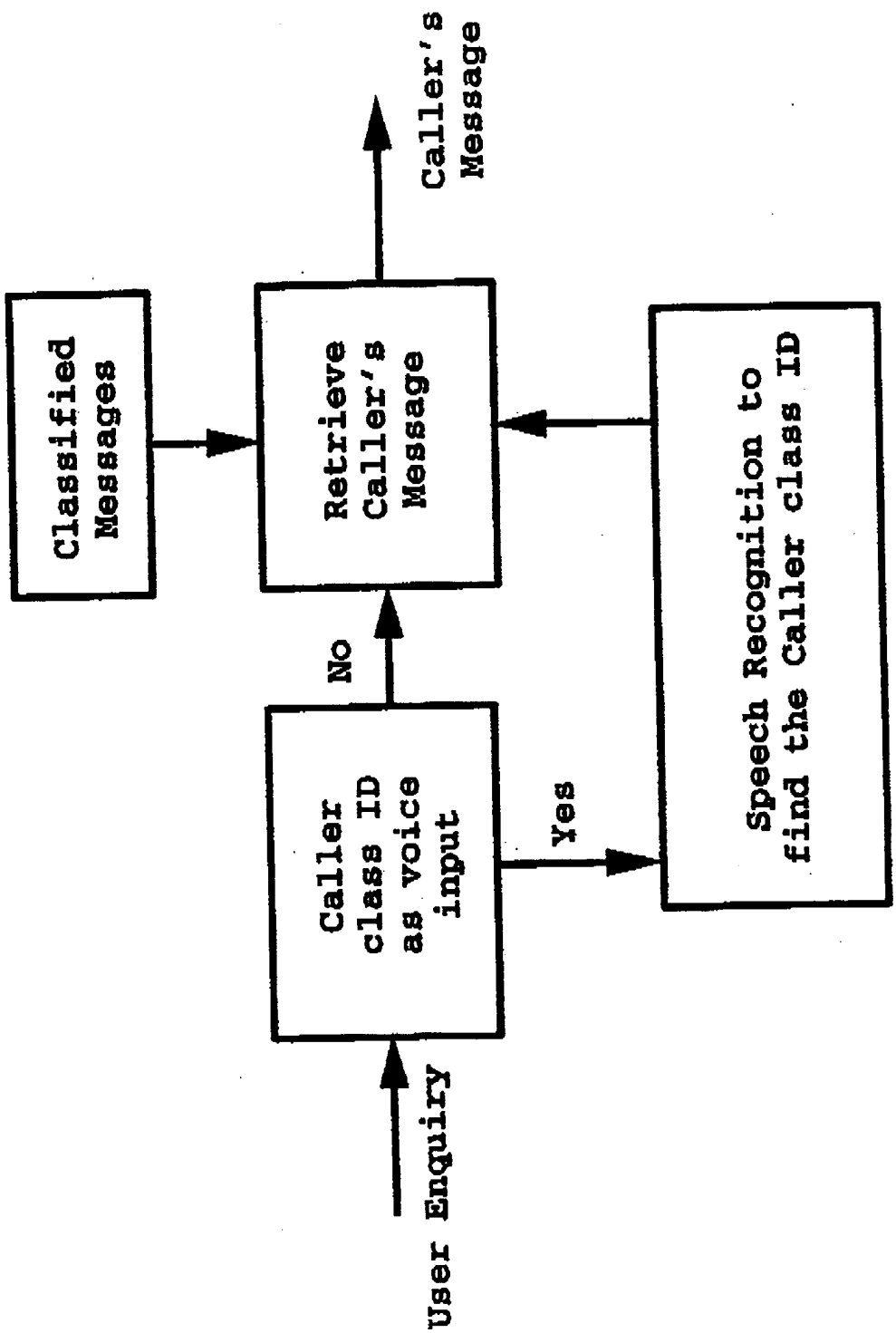


Fig. 3. Caller Classfified Message Retrieval

Key Segment Spotting in Voice Messages

Padma Ramesh and Chin-Hui Lee

This is an application of key phrase detection and verification for key segment spotting in voice mail.

For example, To spot name segments: Detect and verify the segment "My name is ..." or "This is ...". To spot the phone number segment, detect and verify the segment "My number is ..." or "Call me back at ....." or even spotting the digit part of the message such as "my number is 364-7589".

This application uses the current knowledge in speech recognition, wordspotting, utterance verification, and speech coding, and extends it to the key segment spotting application for voice mail messages. There is no known product at this time for this application.

The purpose of this application is to identify and spot segments containing key information in voice messages. This is important when sorting through a lot of voice mail messages. This speeds up the process of looking for particular messages, messages from certain people, or when looking for certain segments of the messages. This invention will spot the key segments and can then retrieve only the desired segments. This will enable one to just get to the desired section of the message instead of having to listen to the message up to the desired segment.

Keyword Segment Spotting is achieved as follows. First the users register the key segments they would like to spot in the messages. This can be done via text, or by voice. General key segments such as name segments and phone numbers may be provided without registration as predefined segments. To access these the user may use certain keys on the phone, such as, **T for the telephone number segment, **N for the name segment, **D for the date segment, and so on. Furthermore, the telephone number detection with **T allows for phone number verification, as well as for redial with **C. Also, the user may register the key segments by using part of the message itself with **S. This feature will be useful for example, for saving the actual names of the message sender, in order to spot them later.

User registration process is described in Fig. 1. The user inputs the key segment to be registered as either text, pronunciation (text), or speech form. The text is processed through the text-to-speech front end to obtain the pronunciation. Speech is processed through the speech recognizer and a pronunciation is

obtained. This pronunciation is stored as the Key segment characteristics.

When the voice messages are received, these are processed through the message handler shown in Fig. 2. to look for the registered and the predefined key segments. The segment characteristics and speaker independent models (for the sound units of the pronunciation) are used during the message handling, to spot the key segment using wordspotting or phrase detection technology. In addition, utterance verification may be used to enhance the detection accuracy. The messages are then tagged with the key segments and their locations in the messages to facilitate their retrieval later.

The message retrieval phase is shown in Fig. 3. On receiving the user enquiry for a segment, first it is checked to see if it is a registered or predefined segment. If so, the message is already tagged and the desired segment is retrieved. If it is a new key segment, its pronunciation is first obtained as shown in Fig. 1 of user registration, and then the message is tagged using the message handler. After the message is tagged, the desired segment is retrieved.

When a key segment is retrieved, it can be saved for future use as a key segment by the use of the keys **S. This will enable us to save for example, the message sender's name in their own voice for later use of identifying, tagging and retrieving their messages. Furthermore, if the name segment is retrieved, it can be used to identify the caller and hence for message filtering and classification of messages according to the caller.

This application uses speech recognition, wordspotting, keyword detection and utterance verification technologies for spotting the key segments in the messages. It will also use speech coding technology for key segment spotting in coded voice mail messages. It requires utterance verification of variable number digits for retrieving telephone numbers.

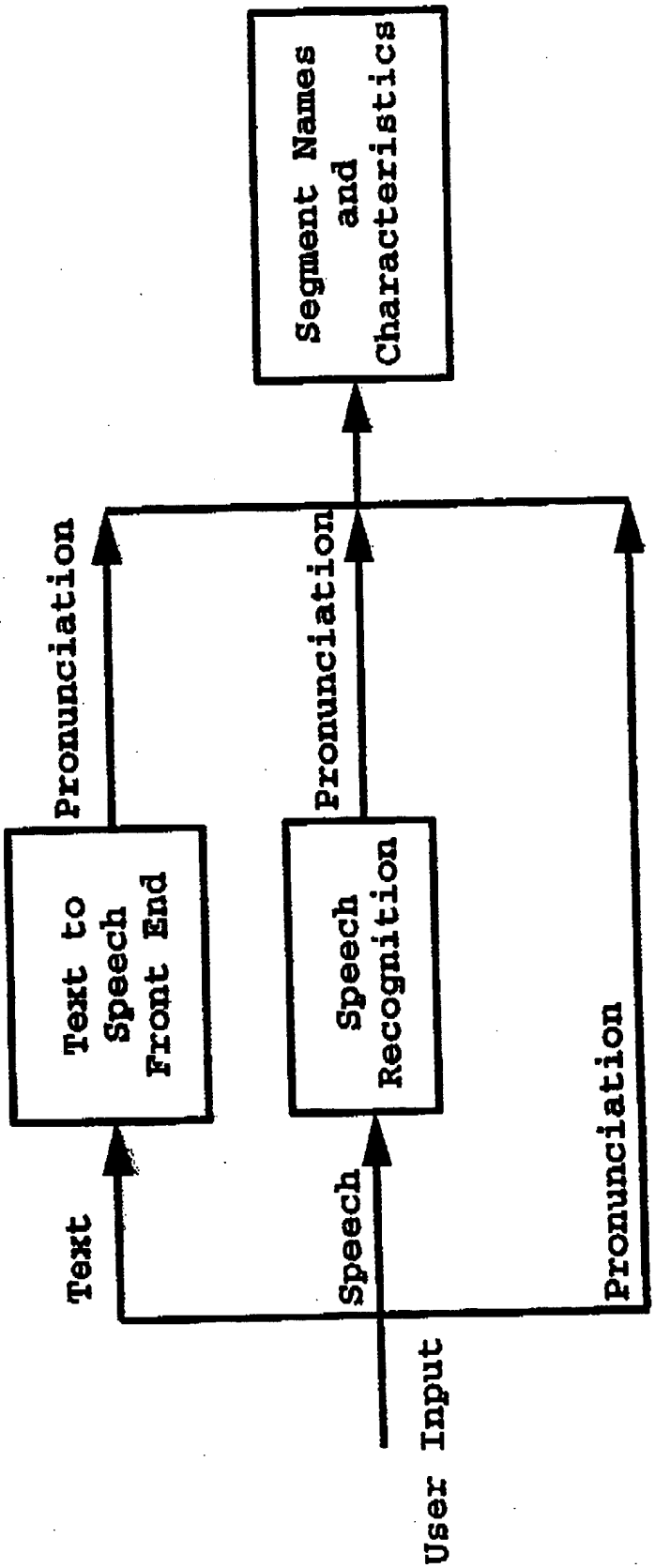


Fig. 1. Key Segment Registration

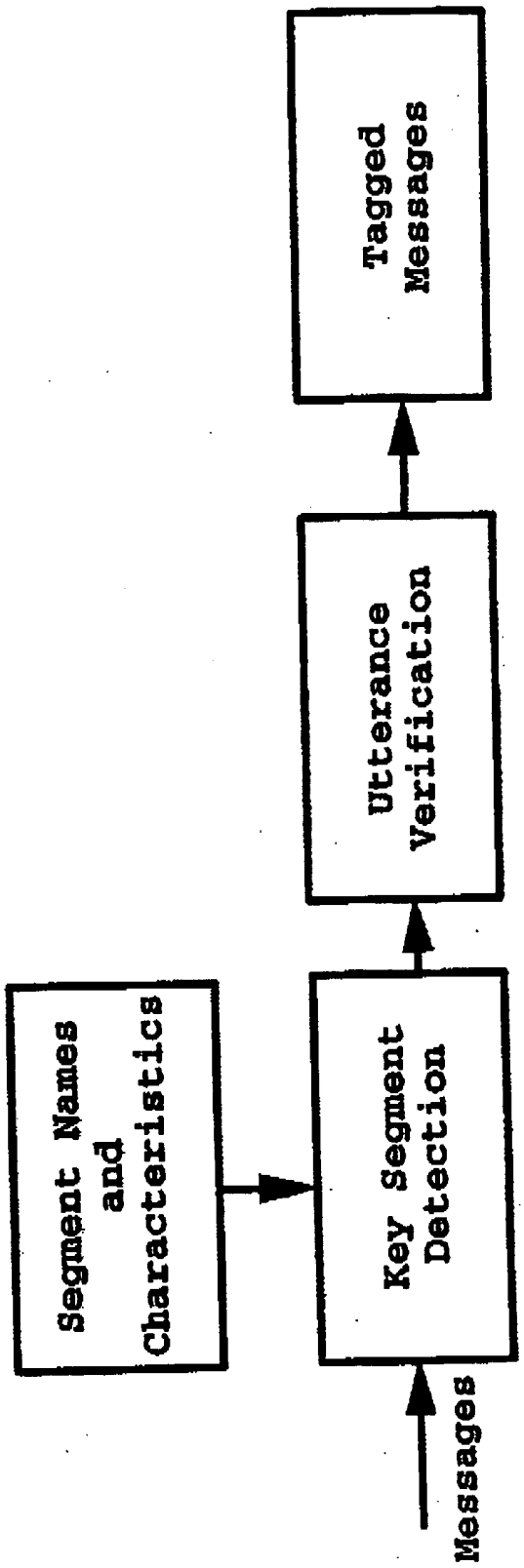


Fig. 2. Message Handling for Key Segment Identification

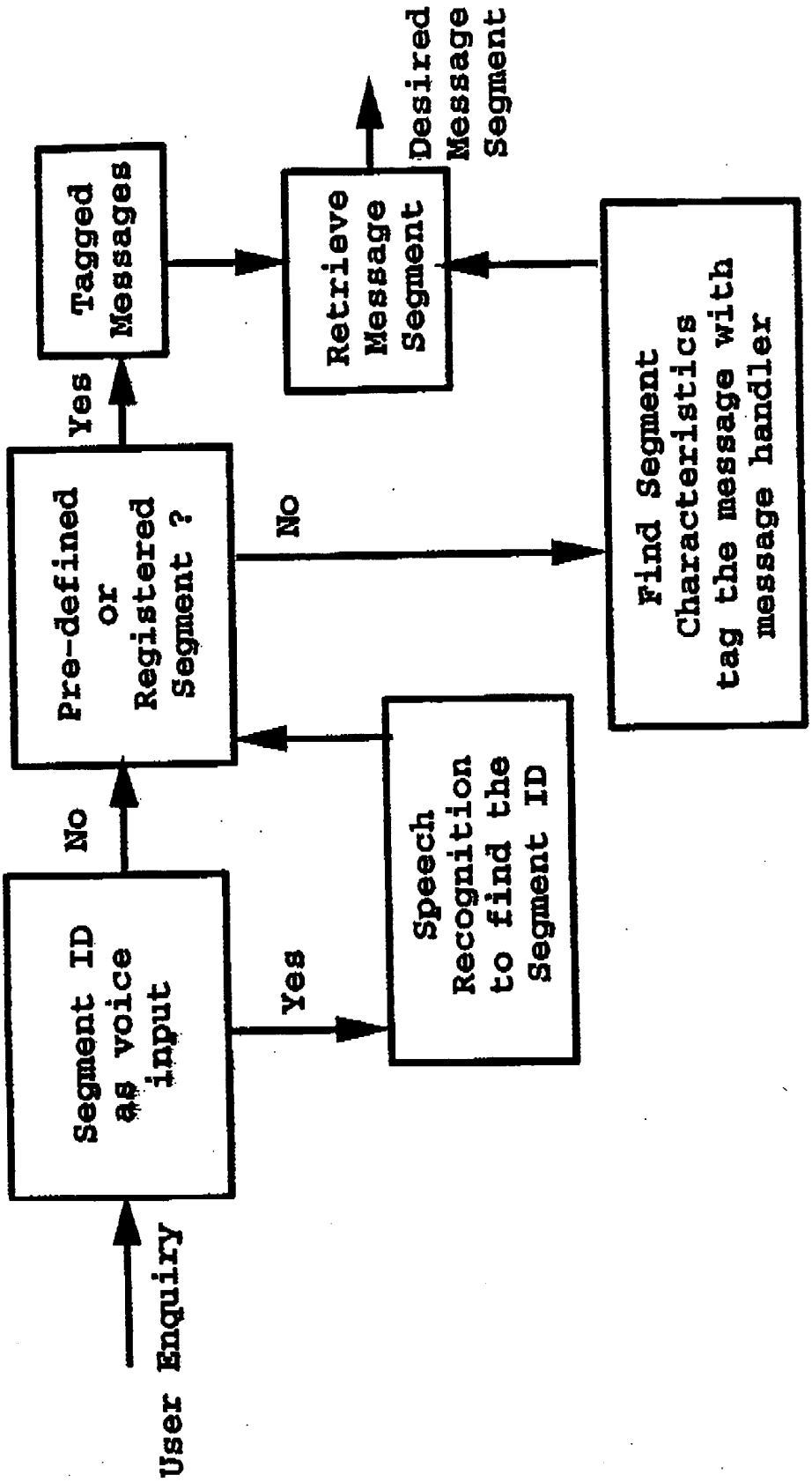


Fig. 3. Retrieval of Key Segments and messages with Key Segments

Padma Ramesh (Chin Lee's dept) 10/7/97

Caller classification + key segment spotting in answer voice messages

classifying by message header / who it is the call from

by speaker identification

finding the important part of the message.

look for a keyword/phrase (e.g., after getting an initial list)

Application patent(s)
- combined speaker id. & word spotting techniques

Speaker independent (possibly keyphrase recognition

(an application could be look for "my name is" as another way of doing the caller classification)

partial text parsing is not patentable

(another application could be "the meeting is in ___ at ___")

(another application - extract phone # to call back)

potential

Novelty?: Speech recognition on a voice message [using word/phrase spotting techniques]

106

12/3/96 4AM (Padma's proje including database collec

Patent Idea 1

Messaging Filtering: Caller Classification" (Using acoustic segment models)

e.g. "Is there any message from ____ ?"

Two steps: (1) Registration:

(Three functions) e.g. **S for saving the voice char of the specified sender (use VQ or ASM) and attach an ID such as "Arun"

Also provide user speaker verification for security access enhancement (2) Retrival and Caller Classification

(3) List all callers being identified "Arun" "Bzhuu", "Nikil", etc.

II "Key Segment Spotting" (using Keyphrase detection & verificat

e.g. Name: "My name is ..."

Number: "My number is ..."

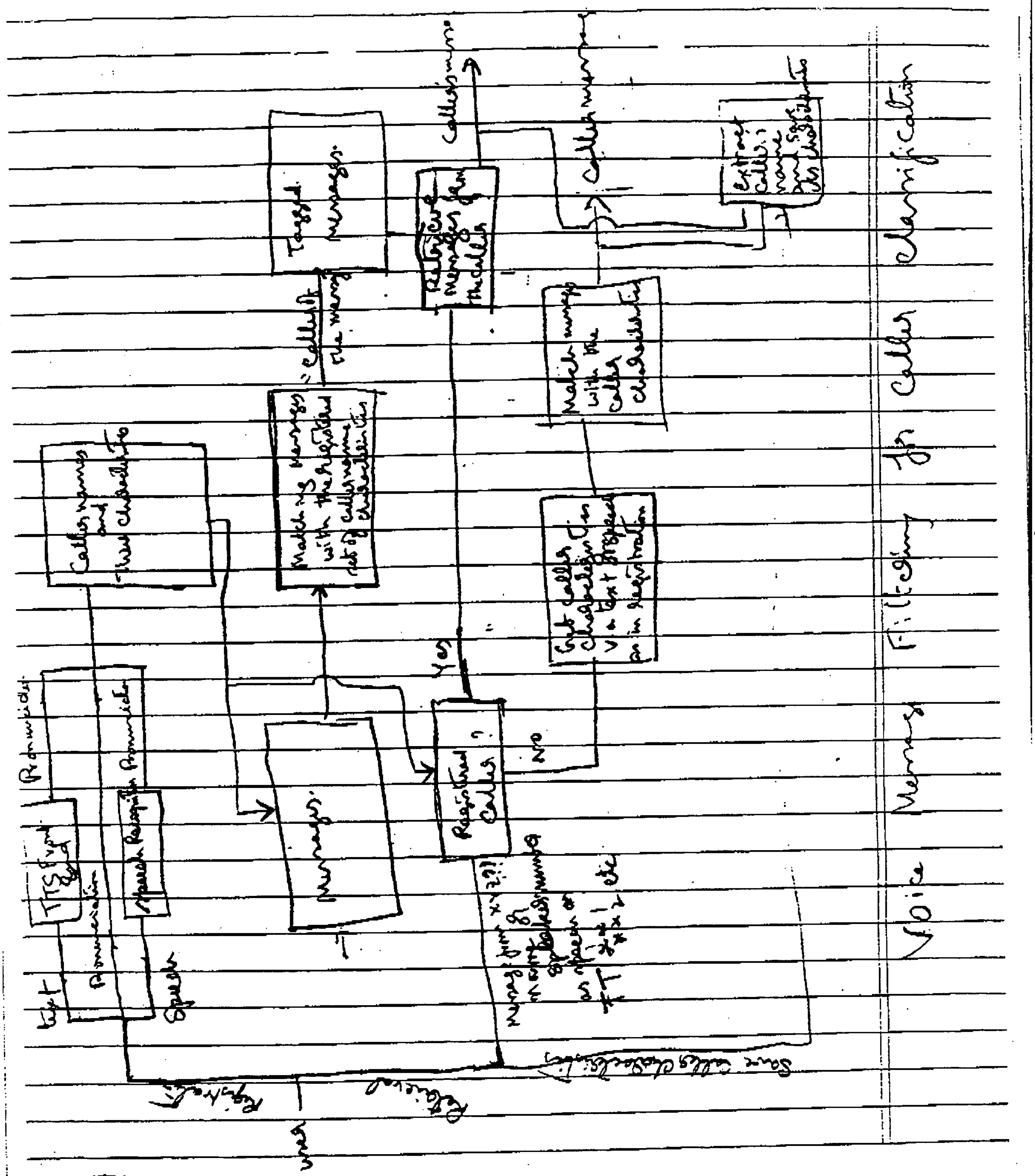
purpose: "identify and spotting Key segments containing key information based on spotting key phrases from voice messages" **I for playing back segments containing numbers, **N for playing back name segments

need: variable number digit verification

accuracy: can have variable level of false alarm rate

(1) Utterance Verification

(2) Coded Speech



5. PRESENT STATE OF THE ART

Briefly describe the closest already-known technology that relates to the invention. This would include, for example, already existing products, methods or compositions which are known to you personally or through descriptions in publications or patents.

Word Spotting: This involves searches for any occurrence of keywords or key phrases in the input speech utterance. The involves modeling the characteristics of the keywords & key phrases and other segments and then matching the input speech utterance with these models to find the best keyword & key phrase.

Utterance Verification: This is used to verify if the speech input has a particular keyword & key phrase.

6. ADVANCEMENT IN STATE OF THE ART

Briefly describe the unique advancement achieved by the invention. This may be done, for example, by describing a problem with the prior art that is solved or specific objects that are achieved by the invention

This invention extends the word spotting and utterance verification technologies to the caller classification "application for voice messages". This enables via the classify the voice messages coming from a registered set of callers. This will enable the user to select and retrieve just the messages from any of the registered set of callers. The method can also be enhanced with the use of speaker verification for increasing the access security.

7. HOW ACHIEVED

Briefly describe the invention and how it achieves the advancement described in paragraph 6.

The user first registers a set of callers names. This can be done either via text or by speech input. When the voice messages are received they are compared to the name models for the callers and are classified as coming from one of the registered callers & others. This can be done as soon as the message is received or at the time of retrieval. When the user is ready to retrieve the messages the user can retrieve messages of any one of the registered callers by speaking the name & by touch tone input of a specified number. The user's own name model can be saved by a touch tone input or a spoken input.

8. DISCLOSURE OUTSIDE OF LUCENT

Anticipated Publication Date: _____ Publication Name: _____

Submitted to Publication Clearance? ☐ Yes ☒ No

If the invention was or will otherwise be disclosed to any non-Lucent employee, describe to whom (person/company), when, where, why, and whether it was/will be under a non-disclosure agreement.

_____

_____

9. INVENTOR #1: _____
Signature Date

INVENTOR #2: _____
Signature Date

INVENTOR #3: _____
Signature Date

5. PRESENT STATE OF THE ART

Briefly describe the closest already-known technology that relates to the invention. This would include, for example, already existing products, methods or compositions which are known to you personally or through descriptions in publications or patents.

Word Spotting

voice/sound recognition.

6. ADVANCEMENT IN STATE OF THE ART

Briefly describe the unique advancement achieved by the invention. This may be done, for example, by describing a problem with the prior art that is solved or specific objects that are achieved by the invention

This invention uses key phrase detection and/or utterance verification technologies to locate/extract key segments such as names (This is XYZ; My name is XYZ", telephone numbers, "My number is NNN", "You can reach me at NNN", and so on. This will enable playback of the desired speech segments only, instead of the whole message.

7. HOW ACHIEVED

Briefly describe the invention and how it achieves the advancement described in paragraph 6.

The user may pre-register some key segments. Then when the message is received at the time of retrieval, the message is compared to the speech characteristic the key segments of interest to extract that part from the message. Then just that segment of interest such as "My name is XYZ" or "My phone number is NNN" is played back to the user. This enables the user to extract just the desired information without having to listen to the complete message.

8. DISCLOSURE OUTSIDE OF LUCENT

Anticipated Publication Date: _____ Publication Name: _____

Submitted to Publication Clearance? ☐ Yes ☒ No

If the invention was or will otherwise be disclosed to any non-Lucent employee, describe to whom (person/company), when, where, why, and whether it was/will be under a non-disclosure agreement.

9. INVENTOR #1: _____
Signature Date

INVENTOR #2: _____
Signature Date

INVENTOR #3: _____
Signature Date

EXHIBIT B

June 16, 1998

Lucent Technologies
Bell Labs Innovations

Eli Weiss
Corporate Counsel
Intellectual Property - Law

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Telephone 732 949 3147
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E Mail holawa!ew

VIA EXPRESS MAIL

Chris Kolefas, Esq.
Baker & McKenzie
805 Third Avenue
New York, NY 10022

Re: IDS No.: 115485

Managing Attorney	Telephone No.	Fax No.
Kenneth M. Brown	908-582-5998	908-582-4020

Secretary	Telephone No.
Anna Brazil	908-582-6925

Dear Chris:

The above-referenced patent submission is enclosed with this letter. This case is closely related to IDS 115486. Prior to contacting the authors of the submission, please call the Managing Attorney identified above for his thoughts and instructions.

NOTE: This case should be filed by **October 20, 1998.** Please call the Managing Attorney to confirm that this case will be filed on time. If for any reason you cannot meet this date, you MUST notify the Managing Attorney and me, VIA FACSIMILE, as soon as possible and no later than 2 weeks prior to our requested date. If possible, the Managing Attorney will then determine if a new but final date can be assigned. Whenever the Managing Attorney and you agree to change the date to file, confirmation via facsimile must be sent to the Managing Attorney and to me for our records.

As soon as you have identified the inventors, please call Joyce Petruzzelli at (732) 949-6068 for a case name and number. After the application is completed, but before the Declaration and Assignment are executed, please send a copy to the Managing Attorney for his review and oral authorization to file. The completed application is to be mailed from your office directly to the USPTO. A copy of all papers which are sent to the USPTO should be sent to Joyce Petruzzelli for our files together with the debit note for preparing the patent application.

Please sign and return a copy of this letter to the Managing Attorney and to me, via facsimile, as confirmation of receipt of the enclosed submission.

Very truly yours,

E. L. Weiss

Eli Weiss
Corporate Counsel

EW:jp

Atts.
As above

Copy to:
K. M. Brown
C-H. Lee
P. Ramesh

Received: Chris Kolefas

Date: 6-19-98

SUBMISSION NO. : 115485

ATTORNEY : Brown, Kenneth M.

Title :
Key Segment Spotting
In Voice Messages

----------MAIN INFORMATION----------

ITEM STATUS	: Opened	LUCENT RATING	:
STATUS DATE	: 05/28/1998	PATENT WPN	: U0
OPEN DATE	: 03/03/1998	GOVT. CONTRACT	: No
CLOSE DATE	:	TYPE	: Patentability
DEADLINE DATE	:	DEFENSIVE	: No
BU CODE(S)	: BLRS		

----------SUBMITTER INFORMATION----------

SUBMITTER NAME : Lee, Chin-Hui
COMPANY : LUCENT
LOC_EXT : MH 5226
DEPARTMENT : BL0113330
DIRECTOR : S. Ahuja

SUBMITTER NAME : Ramesh, Padma
COMPANY : LUCENT
LOC_EXT : 908-582-7688
DEPARTMENT : BL0113330
DIRECTOR : S. Ahuja

Brief Description :

No data in this field

INVENTOR INFORMATION

LAST NAME	FIRST NAME	MIDDLE NAME
Lee	Chin-Hui	
THIRD NAME	SUFFIX	SSN
		048666689

STREET : 118 Runnymede Parkway
CITY : New Providence
MAIL CITY : New Providence
COUNTY : Union
STATE : NJ
CTRY CODE : USA
ZIP : 07974
LOC/EXT : MH 5226
COMPANY CODE : LUCENT
DIRECTOR : S. Ahuja
PATENT COUNT :
PREVIOUS NAME:

P.O. BOX :
RURAL ROUTE :
CITIZENSHIP : USA
ASSIGNEE CODE: LUCENT
FIRST PATENT :
DEPARTMENT : BL0113330
LAST CASE : 21
REVISED DATE : 05/27/1998

Ramesh, Padma (Padma)

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Lee,Chin-Hui (Chin-Hui)
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EXHIBIT C

BAKER & McKENZIE

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BOGOTA, BRASILIA, BUENOS AIRES, CARACAS, CHICAGO, DALLAS, HOUSTON, JUAREZ, MEXICO CITY, MIAMI, MONTERREY, NEW YORK, PALO ALTO, RIO DE JANEIRO, SAN DIEGO, SAN FRANCISCO, SANTIAGO, SAO PAULO, TIJUANA, TORONTO, VALENCIA, WASHINGTON, D.C.

October 15, 1998

BY FAX

Padma Ramesh
Lucent Technologies Inc.
Room 2C-568
700 Mountain Avenue
Murray Hill, NJ 07974-0636

Re: Patent Application for
KEY SEGMENT SPOTTING IN VOICE MESSAGES
Case: Lee 22-1

Dear Padma:

Attached please find a first draft of the above-identified patent application.

Please review the application for accuracy and completeness. The application must provide sufficient information to allow a person of ordinary skill in the field to implement and practice the invention. The application must also disclose the best mode of practicing the invention known to you.

Please provide a copy of the application to Chin-Hui Lee for his review.

As you will note, there are several questions in boldface in the draft application which you need to answer. Please provide your answers and/or comments as soon as possible so that we may file this application by Tuesday, **October 20**.

If you have any questions, please do not hesitate to call me at 212-891-3956.

Sincerely,

Chris Kolefas

Att.

[NYLIT] 49788

EXHIBIT D

BAKER & McKENZIE
Attorneys at Law
805 Third Avenue
NEW YORK, NEW YORK 10022
Telephone: (212) 751-5700
Facsimile: (212) 759-9133

FACSIMILE TRANSMISSION

DATE: November 3, 1998 **TIME :**

TO: Padma Ramesh

COMPANY: Lucent Technologies, Inc.

FAX NUMBER(s): 1-908-582-7308

FROM: Chris Kolefas

RE: Lee 22-1 (KEY SEGMENT SPOTTING IN VOICE MESSAGES)

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER PAGE): 13

PRIVACY AND CONFIDENTIALITY NOTICE

MESSAGE

Padma:

Attached is a second draft of the above-referenced patent application incorporating your comments of 10/20 into the first draft of the application (which I fax'ed to you 10/15). As you can see, there are several questions that are still unanswered. Please review this draft. Perhaps this time it would be more efficient if we went over the application on the telephone. Please call me when you are ready to do so.

Thank you,

Chris Kolefas

IF YOU HAD ANY TROUBLE RECEIVING THIS TRANSMISSION,
PLEASE CALL (212) 751-5700 EXT: 3956 IMMEDIATELY.

EXHIBIT E

BAKER & McKENZIE
Attorneys at Law
805 Third Avenue
NEW YORK, NEW YORK 10022
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Facsimile: (212) 759-9133

FACSIMILE TRANSMISSION

DATE:	February 10, 1999	**TIME :**
TO:	Padma Ramesh	
COMPANY:	Lucent Technologies, Inc.	
FAX NUMBER(s):	1-908-582-7308	
FROM:	Chris Kolefas	
RE:	Lee 22-1 (KEY SEGMENT SPOTTING IN VOICE MESSAGES)	

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER PAGE): 14

PRIVACY AND CONFIDENTIALITY NOTICE

MESSAGE

Padma:

Attached is a third draft of the above-referenced patent application. Please review this draft and provide to me your comments at your earliest convenience.

Thank you,

Chris Kolefas

IF YOU HAD ANY TROUBLE RECEIVING THIS TRANSMISSION,
PLEASE CALL (212) 751-5700 EXT: 3956 IMMEDIATELY.

EXHIBIT F

BAKER & McKENZIE
Attorneys at Law

805 Third Avenue
NEW YORK, NEW YORK 10022
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FACSIMILE TRANSMISSION

DATE:	May 12, 1999	**TIME :**
TO:	Kenneth Brown, Esq. Lucent Technologies, Inc.	
FAX NUMBER:	908-582-4020	
FROM:	Chris Kolefas	
RE:	Lee 22-1 and Lee 23-2	

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER PAGE) : 31

PRIVACY AND CONFIDENTIALITY NOTICE

MESSAGE

Dear Ken:

Attached for your review are final drafts for Lee 22-1 and Lee 23-2. Please provide any comments you may have at your earliest convenience. If everything is in order, please let me so that I can forward Declarations and Assignments to the inventors. Once I receive the executed forms, I will file the applications.

Sincerely,

Chris

IF YOU HAD ANY TROUBLE RECEIVING THIS TRANSMISSION,
PLEASE CALL (212) 751-5700 EXT: 3956 IMMEDIATELY.

EXHIBIT G

Atty. Docket No.: Lee 22-1
[561]5534/[1]5485]

ASSIGNMENT AND AGREEMENT

For value received, we, **Chin-Hui Lee**, of Basking Ridge in the County of Somerset and State of New Jersey and **Padma Ramesh**, of New Providence in the County of Union and State of New Jersey, hereby sell, assign and transfer to **Lucent Technologies Inc.**, a corporation of the State of Delaware, having an office at 600 Mountain Avenue, P.O. Box 636, Murray Hill, New Jersey 07974-0636, U.S.A., and its successors, assigns and legal representatives, the entire right, title and interest, for the United States of America, in and to certain inventions related to **KEY SEGMENT SPOTTING IN VOICE MESSAGES** the specification of which is filed **herewith** as a United States Patent Application, and all the rights and privileges in said application and under any and all Letters Patent that may be granted in the United States for said inventions; and we also concurrently hereby sell, assign and transfer to Lucent Technologies Inc. the entire right, title and interest in and to said inventions for all countries foreign to the United States, including all rights of priority arising from the application aforesaid, and all the rights and privileges under any and all forms of protection, including Letters Patent, that may be granted in said countries foreign to the United States for said inventions.

We authorize Lucent Technologies Inc. to make application for such protection in its own name and maintain such protection in any and all countries foreign to the United States, and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from us, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

We hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of Lucent Technologies Inc. to apply for patent or other form of protection for said inventions and to claim the aforesaid benefit of the right of priority.

We request that any and all patents for said inventions be issued to Lucent Technologies Inc. in the United States and in all countries foreign to the United States, or to such nominees as Lucent Technologies Inc. may designate.

EXPRESS MAIL No. EH 827353286 US
DATE OF DEPOSIT: JUNE 3, 1999

We agree that, when requested, we shall, without charge to Lucent Technologies Inc. but at its expense, sign all papers, and do all acts which may be necessary, desirable or convenient in connection with said applications, patents, or other forms of protection.

Chin-Hui Lee

Chin-Hui Lee

Date: 6/1/99

United States of America)

State of New Jersey) ss.:

County of Union)

On this 1st. day of June, 1999, before me personally came Chin Hui Lee, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Anna J. Brazil

Notary Public

ANNA J. BRAZIL
Notary Public of New Jersey
Registered in Union County
My Commission Expires April 29, 2003

[NYC] 249932.1

Padma Ramesh

Padma Ramesh

Date: 6/1/1999

United States of America)

State of New Jersey) ss.:

County of Union)

On this 1st day of June, 1999, before me personally came Padma Ramesh, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged execution of the same.

Anna J. Brazil

Notary Public

ANNA J. BRAZIL
Notary Public of New Jersey
Registered in Union County
My Commission Expires April 29, 2003

[NYC] 249932.1

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Intellectual Property Law & Related Matters

OFFICIAL

FACSIMILE TRANSMISSION

TO: Examiner Gerald Gauthier
Group Art Unit 2645

FAX NO. (703) 872-9306

FROM: J. Joel Justiss

RE: Serial No. 09/325,143
Attorney Docket No. C. LEE 22-1

DATE: December 8, 2003

PAGES: 42 (including cover page)

If you do not receive the indicated number of pages, please notify the sender at the telephone number shown below. Thank you.

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